

BRIDE

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SUDD

USSR

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INFORMATION FROM "ARSENAL" ON A JET AIRCRAFT ENGINE.

From: NEW YORK

To: MOSCOW

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12 Aug 1944

TO VICTOR.

The latest experimental model of the air unit (USF.N.V.K. VAZDANKha) [2 groups unrecovered] of ARSENAL[1] has:[11]

1. 10 combustion chambers. The number of chambers has been reduced as a result of cutting down the fuel. The number of chambers that has been picked is considered to be the optimum.
2. The ignition has been simplified. Sparking plugs have been left in only two chambers. All the chambers are connected together by tubes along which the flame is distributed to the other chambers. After combustion [starts]<sup>[12]</sup> the ignition is switched off in all the chambers.
3. Combustion of the <sup>(waxes)</sup>paraffin and air mixture takes place continuously. Air compressed to a pressure of 4 atmospheres enters the distributing helix whence via [27 groups unrecoverable]
4. The temperature in the combustion chamber is 1760° Fahrenheit.
5. The chamber has inside it a second cylinder with apertures all over its surface, combustion takes place in this cylinder, and the

[Continued overleaf]

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compressed air passes through the apertures into the interior of the cylinder. This design was chosen owing to the difficulty of selecting suitable heat-resisting steel for the chamber. At present the interior perforated cylinder is changed every 14 hours.

6. Instead of an axial flow gas turbine there is fitted [1 group unrecovered] tangential flow turbine [1 group unrecovered] the latter [1 group unrecovered] checking.

No. 639.

XXY [XXJ][iii]

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T.N.: [a] Inserted by the translator.

Comments: [i] ARSENIJ: Andrej Ivanovich SHEVCHENKO.

[ii] The following details relate to a jet aircraft engine.

[iii] XXJ: Pavel Ivanovich FEDOSIMOV.

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• T.S. No. XY-50.2

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